

CLAIMS

1) A simulation interface, characterized in that it comprises a grip element (3) positioned in front of a user's hand, a sleeve (1) attached to a user's forearm and/or a rod (4) held by the user's other hand, the grip element is linked to the sleeve or to the rod by displacement actuators (6, 7, 11, 36, 37), and the grip element has touch-sensitive actuators (12) in front of the fingers of the hand, the displacement and touch-sensitive actuators being controlled by simulation action responses.

2) A simulation interface according to claim 1, characterised in that the grip element (3) comprises a portion (10) near to the sleeve (1) or to the rod, fitted with at least one thumb-actuated control button (13).

3) A simulation interface according to any of claims 1 or 2, characterised in that the sleeve or the rod (4) is fitted with a wireless displacement or position sensor (14) with a fixed reference.

4) A simulation interface according to any of claims 1 to 3, characterised in that displacement actuator control motors (16) are positioned on the sleeve.

5) A simulation interface according to any of claims 1 to 4, characterised in that the displacement actuators control displacements in different, essentially perpendicular directions, two of the displacement actuators (6, 7) being positioned between

opposite side edges of the sleeve and a portion of the support associated with the sleeve.

6) A simulation interface according to claim 5, characterized in that the grip element comprises a transverse rod (8) mounted onto said two actuators, which control displacements in directions perpendicular to one another and inclined in relation to the rod, and a third displacement actuator is disposed between the rod and a main portion (10) of the grip element (3) by slidably moving the main portion on the rod (8).

7) A simulation interface according to claim 5 or 6, characterised in that four of the displacement actuators are positioned in pairs between displacement X-Y tables adjacent to opposite side edges of the grip element and the support portion associated with the sleeve.

8) A simulation interface according to any of the preceding claims, characterized in that the displacement actuators (36, 37), comprise a motor (38), a drive pulley (39), a driven pulley (44), and a cable transmission (43) between the drive pulley and the driven pulley, the drive pulley and the driven pulley having perpendicular axes and the motors being positioned alongside the user's forearm and hand, the driven pulley being fixed to a frame (4) between the sleeve (1) and the grip element (3), the motors (38) being fixed to the sleeve and to the grip element respectively, and the driven pulleys having axes of rotation passing through a user's wrist.